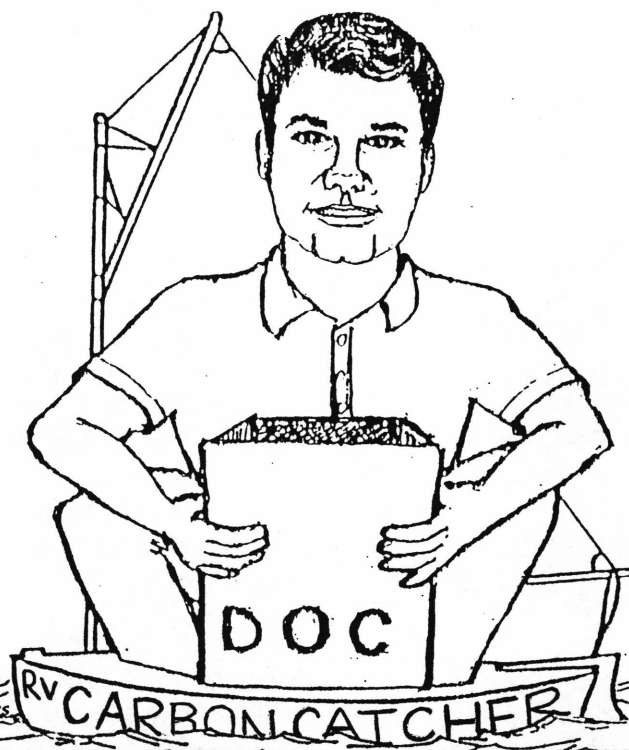


The Lazarette Gazette

NEWS FROM
The University of Texas at Austin
MARINE SCIENCE INSTITUTE
Port Aransas, Texas 78373-1267

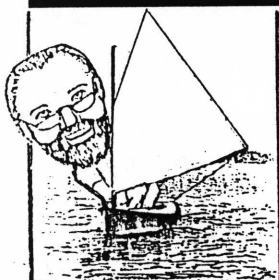
Vol. 2, Issue 16, 27 August 1993



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Director's Report

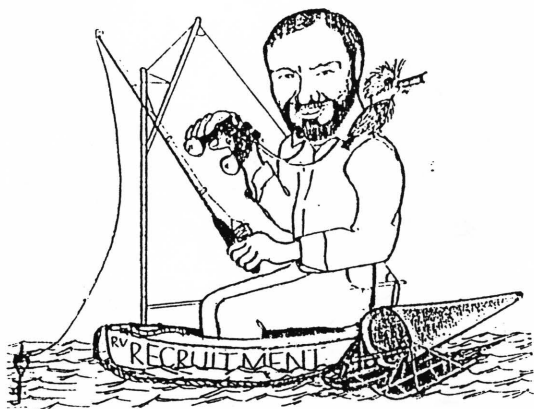


Advisory Council Meeting is September 25 — We are looking forward to a great meeting of the Advisory Council on Saturday, September 25. The new pier and pier laboratory will be featured. Our Saturday evening dinner will take place there, and it will be a good chance not only to see the fine new facilities, but to see some of the typical activities which take place on the pier. The current in the Aransas Pass provides the flow necessary to operate the tide trap and plankton nets from the pier. Scientific staff will be on hand to help examine the catch.

Members from the San Antonio area may have previously enjoyed the culinary work of our caterer, Guy Carnathan. Port Aransas is now lucky to have Guy operating Beulah's (behind the Tarpon Inn). I want to thank Judy Renick for twisting Guy's arm. Under the more serious heading of work to be accomplished, we will want to form and activate committees on Community Relations, Development and Membership in addition to the existing Executive Committee.

—Terry Whitledge

Supply-side Ecology II



In the first part of our article on "Supply-side Ecology" I ended with a reference to a thesis project on that subject by Jim Tolan and a promise of more on seagrass nursery areas and larval fish. I suggested to Jim that since it was his work he might want to write the second half of the article and, of course, he concurred! So here is a brief description of his research project, which he is currently in the midst of. We will give you a summary of the results when he finishes next spring.

—Scott Holt

Most keen observers of the "Lazarette Gazette" have no doubt noticed the small caricature of an airplane that introduces each foray in the Trip Reports & Travel section. Over the past few months, I have become quite a regular in this feature, due to the numerous trips we have taken to the "research mecca" of Port Mansfield. While I would love to boast of chartered planes and fat expense accounts, I must confess to a more humble mode of transportation. Although, I suppose an airplane to introduce my trip reports is warranted, given that I use the "Jet-Air" boat to conduct my research.

Despite the rumors that have made their way back from Mansfield, going to the "Road Kill Inn" is NOT the primary purpose of these scientific expeditions. (Is it my fault that this fine establishment is the only place in town to eat a hot breakfast and shoot pool at 5 a.m.?). It is merely a coincidence that most days in Port Mansfield usually begin and end at the Road Kill Inn.

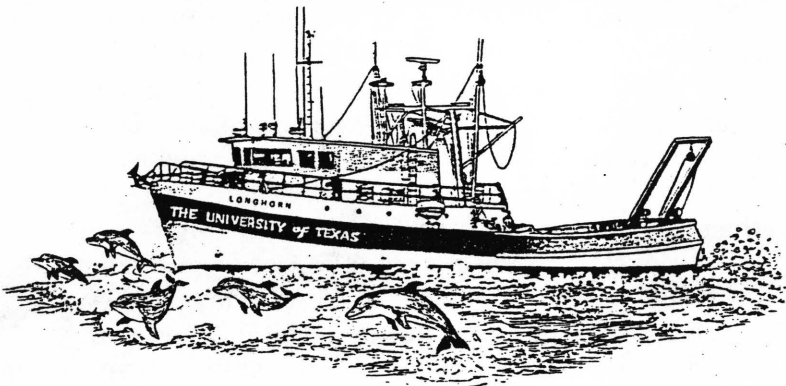
The real purpose of these trips is to collect ichthyoplankton samples from over the seagrass beds, as part of my Masters degree thesis. Seagrasses are a very important estuarine feature along the middle and lower Texas coast. It is generally accepted that these estuaries play an important role in the early life history of many species; however, our knowledge of exactly what happens to these species in the estuary is somewhat limited. High densities of juvenile size fish found in and around seagrass beds offer proof that these habitats are excellent nursery grounds. This observation leads to the fundamental question of how these fishes go from being planktonic larvae to "resident" juveniles. What process triggers the larvae to leave the plankton and eventually take up residence in a particular habitat? If habitat selection is an active process, what factors act to help the larvae settle out of the plankton and choose a particular "nursery"? Conversely, if settlement is a passive process, what factors control the distribution of larvae within the estuary and determine which habitats are utilized?

The concept of larval supply is of central importance. The focus of this particular work in our lab is specifically where these fish settle in the estuary, once the immigration cycle is complete. When presented with a variety of "suitable" habitats (such as different seagrass species), do these fish seek out a particular habitat or do they settle upon the first habitat encountered? To address this question, the area north of Port Mansfield was chosen to conduct the study. Here, the entire Laguna Madre from Port Mansfield north to the Land Cut is basically a flat seagrass meadow, with very little relief in the way of spoil islands. Long bands of two different seagrass species (shoalgrass and manateegrass) form single species meadows paralleling the backside of Padre Island. The immigrating larval fish are thus presented with three distinct habitats to "choose" from: the two grass species and unvegetated bay bottom. The community structure of these specific estuarine habitats should then be a direct reflection of what kinds of larvae are

being supplied to them, or a reflection of the preferred habitat of each species depending on which of the alternative "settlement" processes are operating. Since the larvae of species spawned outside the estuary have a common starting point (i.e. the tidal inlet), they can be "tracked" as to their settlement patterns in the estuary. Comparisons of larval density can be made on the basis of bottom type (habitat) and location within the estuary (distance from the Gulf pass). A habitats relative "value" can be assessed as a function of what kinds of larvae are found in association with it, given all other factors being equal.

So far the work has gone relatively well, with one exception. The scourge of the Laguna Madre, brown tide, may throw a fly in the ointment. It has been shown by Joan Holt's lab that dense blooms of this phytoplankton can inhibit feeding in some larval fish. In field collections done by our group, overall densities of larval fish are significantly reduced in really thick brown tide. So if this insidious little plant has a serious effect on the relative dispersion rates or survival of immigrating larval fish, the general concept of assessing habitat quality and community structure as a function of larval supply may have to be reevaluated for this study. I will present a portion of this work at the Texas Chapter of the American Fisheries Society meeting, here at UTMSI in September. So until then, let's all hope for an end to the brown tide before this research project is finished (one way or another!!!).
—Jim Tolan

Cruise Reports & Boat Operations



This year's NECOP cruise off the Mississippi River Delta occurred at the time when the flooding of the Mississippi River and several of its tributaries was receiving national attention. NECOP stands for Nutrient Enhanced Coastal Ocean Productivity. The NECOP research program is funded by NOAA to investigate the effects of nutrient loading from the Mississippi River on the Louisiana shelf ecosystem. The Longhorn was involved in two cruises in the area during July. The first cruise surveyed the region.

Lynn Tinnin and scientists from NOAA participated in that cruise. The second cruise involved measurements of biological processes. Terry Whitlege, Dean Stockwell, Dean Pakulski, Rainer Amon, David Shormann, myself and several scientists from Texas A&M and NOAA were on board for the second cruise.

The most obvious effect of the nutrient loading from the Mississippi is easily observed by the appearance of very green water due to blooms of algae and cyanobacteria. The nutrient concentrations in the river are typically high (100µM NO₃), and during our recent cruise concentrations of nitrate were close to 200 µM. When you consider that river discharge was about 20,000 m³/second, the magnitude of the nutrient loading is readily apparent. A lot of the fertilizer that farmers applied in the spring ended up on the Louisiana shelf during the summer. The resulting crop of phytoplankton causes some severe problems on the Louisiana shelf, an important area for commercial fisheries. The microbial decomposition of the massive phytoplankton blooms consumes most of the dissolved oxygen in the stratified bottom waters making it uninhabitable to most animals. The extent of the freshwater plume in the Gulf is impressive. Eighty miles due south of the Mississippi River Delta in water that was over 1000 m deep there was a surface layer of low salinity water 10 m thick.

This was our final cruise in the NECOP program, which has been funded since 1990. Our thanks to the crew of the Longhorn for a very successful cruise (even if Hayden did catch the biggest fish!). All of the scientists involved in the NECOP program will be analyzing data and preparing manuscripts for publication during the coming year. I'll volunteer Terry Whitlege to present an overview of the program for the LazGaz in the coming months. NOAA is currently evaluating the program, and we hope continued studies off the Mississippi are in the future.

—Ron Benner

Trip Reports & Travel



I just returned from spending six weeks working in France. The trip was funded by a "Senior Guest Scientist" grant from the French NATO program and was from June 29 to August 5. While there I worked with Gérard Blanchard at the Centre de Recherche en Ecologie Marine et Aquaculture (CREMA) in L'Houmeau, France. Gérard was a post-doctoral associate with me between 1990-1991. The CREMA Laboratory is a French government facility, part of the Centre National de la Recherche Scientifique (CNRS). L'Houmeau is on the southwest Atlantic coast near the city of La Rochelle. We were joined by Dr. Alain Dinet for a week. Dr. Dinet, who had visited UT for one week in 1990, is stationed at the Laboratory in Banyuls-sur-mer.

The goal of the work was to measure meiofauna (the smallest benthic invertebrates) grazing rates on benthic microalgae in intertidal mudflats. The coast in southwest France is very different from the Gulf of Mexico. The tidal range is 5 to 6 m, and when the tide is low vast mudflats are exposed. Have you ever seen a muddy beach? Its weird! These areas have a huge economic importance to the local economy, because of mussel aquaculture and harvest of other seafood. Primary production is dominated by benthic microalgae, and we suspect the dominant consumers of this production are meiofauna. In fact, we found very few macrofauna (larger invertebrates) in our samples. We wanted to find out if meiofauna can adjust or change their grazing rates when the rate of microalgae food production or biomass changes. This is called a "functional response". Although it is common for invertebrates to exhibit such behavior, it has never been demonstrated in meiofauna. The experiments were very successful. We did find responses that we had expected. In scientific jargon, we "falsified our null hypotheses". The results of the research will provide a better understanding on how animals at the base of the food chain exploit resources in the environment. This information is important in applications ranging from basic research to aquaculture.

The best part of the trip was to get back to the "bench" myself, and to work without interruptions. It was great fun to actually do the work myself again. Also, it is amazing what can be accomplished when the telephone doesn't ring, and no one is knocking on the door. We actually finished twice as much work as we had originally planned. I felt quite refreshed and energized when I came back, but after only one week, I already feel myself being caught up in the usual "grind".

watching my kids try to communicate with other children in the neighborhood. We all really enjoyed French cuisine, and found ourselves eating like the locals every night: lots of seafood (especially mussels), a bottle of wine, fresh baguettes, cheese and fruit. Most weekends we would venture into the country side to visit local attractions. La Rochelle is a beautiful small city. The city harbor is guarded by three large towers that were begun in the 1200's. Most of the old part of the city dates from the 15th century. An especially fun time was watching fireworks over the harbor on Bastille Day. We also took two long weekend trips. One was to the north to visit châteaux (castles) in the Loir River valley. The other was to the far south to visit the beaches just north of the Spanish border and Basque country in the Pyrenees mountains. We spent the last three days in Paris living like tourists. As you can imagine, Paris in August was flooded with tourists. To me it is just another old city with poor air quality, I'll take the coast and countryside any day. But, I have to admit that the art museums (the Orsay and the Louvre) were spectacular.

—Paul Montagna

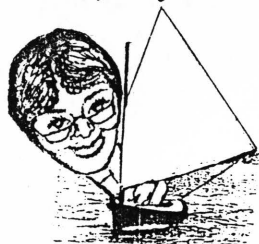
Egabrag Wocs

The Great Cat Contest — We are pleased to announce the winners in *THE GREAT CAT CONTEST*. We had 399 entries (distribution of *Volume 2 Issue 15* was 400 copies — **you** are the only reader who did not enter). You probably failed to read *Egabrag Wocs* last issue, or surely you would have entered. Tammy and Shawn, of Fishkill, New York, had asked for advice on *how to own and raise a large cat*. The *LazGaz* said it *might* send a one month supply of kitty litter (17 tons) to Tammy and Shawn in the name of the person providing the best answer to their letter.

Greater Prize Suggested — Kathy Fisher Binney wrote us as follows: *...along with the 17 tons of kitty litter you're proposing to be sent, I nominate the RV SPONGE (AKA the JEFFERSON) to be sent along to be used as the litter box!* This was a great suggestion! However, knowing the high regard, great admiration, and esteem which all have for the *RV SPONGE*, we unfortunately just cannot make such an extreme sacrifice.

Joe Morgan "Clarifies" Things — Dear Mr. Editor: Your latest edition of the *Lazarette Gazette* has made its way to my mailbox, and I am forced to write and help you clear up your collective confusion regarding "The Great Cat Contest", and the letter leading up to it. It is not surprising to me that Curly was the original recipient of the query from Tammy and Shawn, as his reputation is world-wide in scope. When I was first at the institute in 1971 he was introduced to me by Pat Parker as, Curly Wohlschlag, Ph.D., E.D.N.E., F.R.A.F.S. (Expert on Damn Near Everything, And In Particular the Antarctic, Fellow of the Royal Academy of Fish Stuff). Perhaps the confusion stems from Tammy's use of the term, "large cats". Within the context of her letter she is undoubtedly referring to large catFISH, which is clearly within the eminent professor's area of expertise. I'm certain, now that I've cleared this up for you, he will be able to field her questions regarding breeding and land. Training is another matter, however, as Curly was never even able to train Faust Parker, so I seriously doubt that he has any meaningful advice to give on training a large catfish. To avoid future confusion, I suggest you change Dr. Wohlschlag's listing in your directory to: "D.E. Wohlschlag, Ph.D.; Information, General". That should clear it up. I was somewhat surprised that Tammy didn't inquire about proper cat filleting techniques, but who knows, maybe she's vegetarian. At any rate, my best to all. Keep those newsletters coming and take heart, with all the time you've spent there and all the characters you've seen, there ain't no way you can be out of stories yet. Kind Regards, Joe Morgan. P.S. — One note. During my research on this, I became aware that early on in Dr. Wohlschlag's career, he was a minor league pitcher of some note. Mean curveball. Good infield chatter. Went by the name of D.E. "Catfish" Wohlschlag. Bet you didn't know that.

First Prize to Lynn Amos — The anonymous judges had great difficulty deciding among the 399 entries. However, they felt that Lynn Amos had established new heights of catachresis in the following entry:



Dear Tammy & Shawn: The first thing you have to do is catch your cat. I won't presume to catechize as you've not been catnapping and have checked all the catalogs. A cataclysm raised up Catalina Island, where I understand the presence of catnip, cattle, cattails (also known as catkins), and caterpillars attest to the possible presence of a suitable feline. Caterwauling and other catarrh-clearing noises have been heard, and we're pretty sure it isn't made by catbirds or the freshwater catfish in the cataract that runs from the catacombs to the sea (they're catadromous, by-the-way, so return to the sea--a catalyst to spawning). You could hire a catamaran to make the crossing (watch the winds or a catastrophe might take you all the way to Catalan). Don't forget to take your catapult (string it with catgut), and for ammunition, be sure you use catawba grapes covered in catsup, a renowned combination. Even a glancing blow and your cat is cataleptic. Good hunting!



Second Prize to МЫ НЕ ЗНАЕМ — Our first prize winner gave Tammy and Shawn good instructions on their first problem — acquiring a cat. Our second place entry, from our correspondent, МЫ НЕ ЗНАЕМ, completes the story by showing Tammy and Shawn how they can raise a large cat.

Attaboys

■ *Thank you for all of your efforts coordinating the events for the Texas Lyceum. It is very much appreciated.*

(To John Thompson from Elma Teresa Salinas Ender)

■ *Please extend my thanks to the gentlemen who were involved with the repairs to my apartment. They did a fast and wonderful job with the numerous problems in the apartment. Also, thank you for your help in expediting the process.*

(To John Thompson from Jennifer L. Di Cocco)

Fiscal Office Facts...and foo-fa-raw

Gas cylinder users — remember to sign out on the *sign out sheet* when you are removing a cylinder from the gas cylinder storage room. The cylinders are listed on the sheet so all you have to do is write the PI's name and the date the cylinder was removed. Also, when returning cylinders **BRING BACK THE CAP!** The cap is a necessary safety measure in case the cylinder should fall over. Thank you. —Venus Mills

Personnel

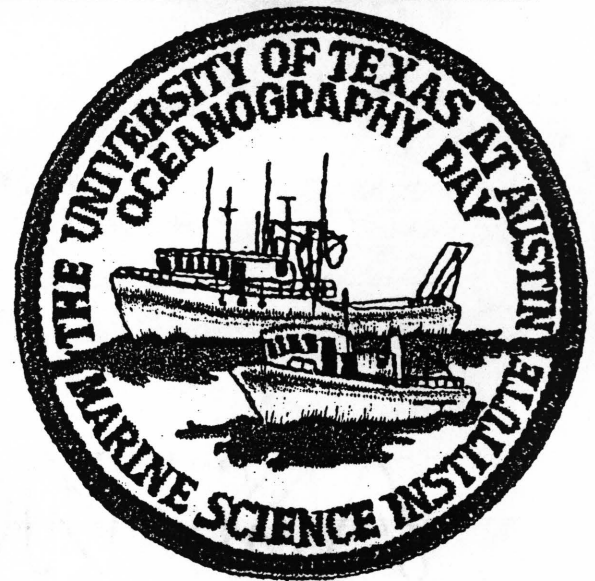
Dr. Ronald H. Benner — The man on the masthead afloat on a sea of organics with a big box of dissolved organic carbon is Ron Benner. Ron is a Research Scientist at MSI and Associate Professor in the Department of Marine Science. He received his Ph.D. from the University of Georgia and his B.S. from Florida International University. His major area of research is *Microbial Ecology/Biogeochemistry; microbial food webs; carbon and nitrogen cycling; bacterial growth and metabolism; and diagenesis of organic matter*. Ron's work has taken him from the Amazon (see Volume I, Issue #2 of the *LazGaz*) to his recent cruise in the Gulf of Mexico aboard the *R/V LONGHORN* (this issue). Ron lives on Padre Island on the old Packery Channel with his wife Cristina and children: Anita, 16; William, 9; and Sophia, 6.

Núria Guixa — A warm welcome to Núria Guixa, who recently arrived at MSI from Spain. Núria is a doctoral student at the Institute of Marine Science in Barcelona, working under the direction of Dr. Carlos Pedrós-Alió. She will be visiting Curtis Suttle's laboratory for three months to conduct experiments and to learn methods for enumerating viruses in seawater. —Curtis Suttle

Marine Education Services

OCEANOGRAPHY DAY

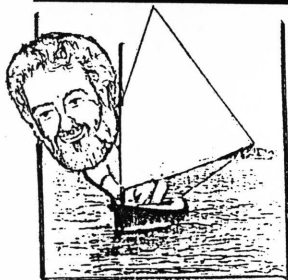
UT—Arlington Professor Tom Hellier, who received his Ph.D. with work at the Marine Science Institute, is also known for his volunteer work which began in Port Aransas as Scoutmaster more than thirty years ago. For countless summers Tom has instructed adult leaders at the Philmont Scout Ranch. During the *Oceanography Day* held in 1989 by coincidence Tom was at MSI with his graduate Zoology Class, and volunteered to help out; and in 1991 Tom returned to help on another *Oceanography Day*. Tom has called MSI's *Oceanography Day* "the best program of its kind in the country".



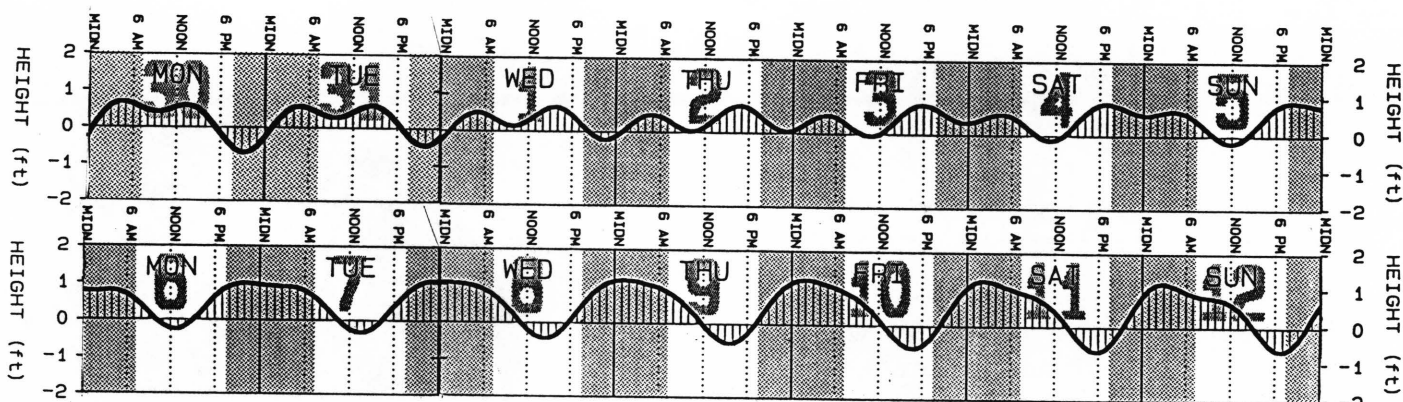
Oceanography Day is a special program for Boy Scouts built around the Scout Oceanography Merit Badge requirements. It was last held in 1991, when 350 Scouts and 150 adults, representing one hundred different Scout Troops and 47 different cities and towns, attended. Scouts must first pass in writing the first six requirements for their merit badge before they may attend. After *Oceanography Day* they complete a final requirement by writing a 500 word report. During *Oceanography Day* they complete other requirements while attending the program which includes lectures, slide shows, hands-on labs, and a trip aboard either the *R/V LONGHORN* or the *R/V KATY*. Scouts receive a special *Oceanography Day* patch.

Financial help needed — MSI would like to provide another *Oceanography Day* in April, 1994. Attendance is dependent upon the young Scout having a serious interest in Oceanography and completing the first six requirements for the merit badge in writing (many hours of hard study required) — not on payment of a fee. Most of the program is presented by volunteers from the MSI Scientific Staff giving up their Saturday for that purpose. But there are costs involved (boats, patches, postage, printing, etc.) For *Oceanography Day* to be presented in 1994, a sponsor or sponsors are being sought, with a minimum total of \$5,000 needed to cover all expenses.

Tony's Tidings...



Tide Predictions—August 30—September 12 (For tidal heights at the tide tower, South Jetty, the Aransas Pass. Heights are in feet above or below mean sea level. The shaded area is nighttime. Remember, this is tidal height, not tidal current. Slack water is when the wiggly line crosses the MSL line, not at peaks and valleys, where the tidal current will be a full flood or ebb.)



Weather report—August 9—22

9 - 15 AUGUST 1993		MON	TUE	WED	THU	FRI	SAT	SUN	MEAN
DATE		9	10	11	12	13	14	15	
AIR TEMP	HIGH	90.5	90.8	92.1	89.0	90.1	89.2	89.4	90.2
AIR TEMP	LOW	80.7	81.1	80.7	78.4	80.9	80.2	81.3	80.5
SEA TEMP	LOW		85.1		84.5		85.2		84.9
RAINFALL	TOTAL	0	0	0	0	0	0	0	0
16 - 22 AUGUST 1993		MON	TUE	WED	THU	FRI	SAT	SUN	MEAN
DATE		16	17	18	19	20	21	22	
AIR TEMP	HIGH	89.0	89.7	88.8	89.9	89.2	88.5	88.7	89.1
AIR TEMP	LOW	81.5	80.9	80.7	80.0	77.9	79.7	80.6	80.1
SEA TEMP	LOW	84.6		84.3		85.3		84.1	84.6
RAINFALL	TOTAL	0	0	0	0	0	0	0	0

—Andi Wickham

It is good to have so many special contributions to this issue: Scott Holt and Jim Tolan for *Supply-side Ecology II*, Paul Montagna's trip to France, and Ron Benner's NECOP cruise. Thanks also to Kathy Binney, Lynn Amos, and Joe Morgan for their responses to *The Great Cat Contest*. And thanks to contributors/helpers Terry Whitledge, Curtis Suttle, Tony Amos, Andi Wickham, Lynn Amos, Kathy Quade, JoAnn Page, and Patty Baker. Joe Morgan is correct when he doubts we will run out of stories, and there are quite a few related to *Oceanography Day*: One of the requirements for the merit badge says to "tell the place of phytoplankton in the food chain". One Scout wrote "it is located somewhere near the fruit and vegetable department". In the more recent version of the *Oceanography Merit Badge Booklet* that question has been altered to read *Oceanic Food Chain*, so perhaps our Scout was not the only one who mistook the Food Chain for his local HEB. It is almost 5 p.m.; the real *LazGaz* sailboat is waiting (I can see her stubby mast through the office window); there is a good stiff breeze blowing, but she already has a reef tied in which should be about right; I do not intend to go home and mow the lawn.

—John Thompson



Gastronomic Gazette

*includes french fries and/or rice and/or green salad

*HAMBURGERS & SANDWICHES

Hamburger	2.50
Cheeseburger	2.60
Ham and cheese sandwich	2.60
Grilled cheese sandwich	2.25
Grilled chicken breast sandwich	2.75

*BASKETS & LUNCHES

Shrimp basket	4.00
Chicken strip basket	3.00
Fried chicken	4.00
Chicken fried steak, gravy	3.50
Liver and onions with fries	3.50

MEXICAN FOOD

Mexican dinner	4.00
Tacos (corn tortillas, soft or crisp)	each--1.00
Tacos (wheat flour tortillas)	each--1.00
Chalupas	each--1.00
Enchiladas	3.00

SALADS

Chef salad	2.50
Greek salad	2.50
Southern salad	3.00

DRINKS

.....	0.40
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Please phone Toni Martinez at 754 by 11:30 a.m. to place your order. You may also order in the cafeteria, but it will take longer.